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X-ray Diffraction Studies of a Candidate Vaccine Protein from the Malarial Parasite, Plasmodium Vivax

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Of the many possible antigens from which to develop a vaccine against malaria, proteins from the sexual stage or insect stage of the malarial life cycle may seem least likely. However, there is good evidence that such a vaccine might prevent the transmission of malaria between individuals by interrupting those stages of the life cycle within the mosquito host. We are determining the protein structure of one such vaccine candidate using synchrotron radiation, using single wavelength experiments and multiple wavelength anomalous diffraction experiments. The crystals are in spacegroup P2<sub>1</sub>2<sub>1</sub>2<sub>1</sub> with cell dimensions of a=46.0, b=57.0, c=67.0. Data were measured on appropriately soaked crystals at three wavelengths around the bromine edge and around the platinum edge. These data have yet to yield adequate experimental electron density maps. Further experiments are in progress.